SAMSUNG TECHWIN

NETWORK CAMERA

User Manual

SNB-5001/SNB-7001

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Network Camera

User Manual

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- **Design and specifications are subject to change without prior notice.**
- **The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product.**
  Note that the security and other related issues caused by the unchanged password shall be responsible for the user.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings, Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/ accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

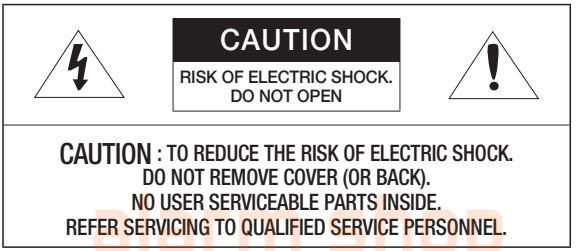
13. Unplug this apparatus during lighting storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECT THROUGH THE VENTILATION GRILLS OR OTHER OPENNINGS ON THE EQUIPMENT.

Apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

CAUTION


CAUTION
RISK OF ELECTRIC SHOCK.
DO NOT OPEN
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK.
DO NOT REMOVE COVER (OR BACK).
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

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EXPLANATION OF GRAPHICAL SYMBOLS

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Class I construction

An apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.

Battery

Batteries(battery pack or batteries installed) shall not be exposed to excessive heat such as sunshine, fire or the like.

Disconnection Device

Disconnect the main plug from the apparatus, if it's defected. And please call a repair man in your location.

When used outside of the U.S., it may be used HAR code with fittings of an approved agency is employed.

CAUTION

These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

The BNC Out terminal of the product is provided for easier installation, and is not recommended for monitoring purposes.
If you keep the BNC cable connected, a risk of lightening may cause damage or malfunction to the product.

Please use the input power with just one camera and other devices must not be connected.

overview

Please read the following recommend safety precautions carefully.

- Do not place this apparatus on an uneven surface.
- Do not install on a surface where it is exposed to direct sunlight, near heating equipment or heavy cold area.
- Do not place this apparatus near conductive material.
- Do not attempt to service this apparatus yourself.
- Do not place a glass of water on the product.
- Do not install near any magnetic sources.
- Do not block any ventilation openings.
- Do not place heavy items on the product.

User's Manual is a guidance book for how to use the products.

The meaning of the symbols are shown below.

- Reference : In case of providing information for helping of product's usages
- Notice : If there's any possibility to occur any damages for the goods and human caused by not following the instruction

※ Please read this manual for the safety before using of goods and keep it in the safe place.

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PRODUCT FEATURES

- **Multi-Streaming**
  This network camera can display videos in different resolutions and qualities simultaneously using different CODECs.
- **Web Browser-based Monitoring**
  Using the Internet web browser to display the image in a local network environment.
- **Alarm**
  If an event occurs, the event-related video will be transferred to the email or FTP server specified by the user.
- **Video Motion Detection**
  Detects a motion from the video before triggering an event.
- **Screen change detection feature**
  If the monitoring is interrupted in any way, the camera will trigger the event alarm.
- **ONVIF Compliance**
  This product supports ONVIF.
  For more information, refer to www.onvif.org.

ONVIF
Driving network video through global standardization

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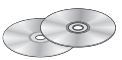
RECOMENDED PC SPECIFICATIONS

- CPU : Intel(R) Core(TM)2 2.4 GHz or higher
- Operating System : Windows XP, VISTA, 7, Mac OS
- Resolution : 1280X1024 pixels or higher (32 bit color)
- RAM : 2GB or higher
- Web Browser : Internet Explorer 7 or later, Firefox 9 or later, Chrome 15 or later, Safari 5.1 or later
  - Neither a beta test version unlike the version released in the company website nor the developer version will be supported.
  - It is recommended to connect to IPv6 in Windows 7.
- Video Memory : 256MB or higher

  - If the driver of the video graphic adapter is not installed properly or is not the latest version, the video may not be played properly.
  - For a multi-monitoring system involving at least 2 monitors, the playback performance can be deteriorated depending on the system.

WHAT'S INCLUDED

Please check if your camera and accessories are all included in the product package.

Appearance	Item Name	Quantity	Description
	Camera	1	
	Instruction book, Installer S/W CD, CMS S/W DVD	2	
	Quick Guide (Optional)	1	
	Cable for the testing monitor	1	Used to test the camera connection to a portable display device
	Alarm Cable	1	Used to connect to Alarm input
	C Mount Adapter	1	Used to install the C Mount camera lens
Lens Options (not included)			
	CS/C Lens		Optional lens to be inserted in a camera

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AT A GLANCE

Front Side

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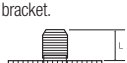
Item	Description
1 Mounting Bracket Screw Hole	Used to fix the camera on a mounting bracket. ■ The screw size : use this screw to fix the mounting bracket. 1/4" - 20UNC (20THREAD/1") L : 4.5mm±0.2mm (ISO Standard), or 0.197" (ASA Standard) 
2 Auto Iris Lens Connector	Used to supply power and output signal to control the iris of the lens.

Item	Description
3 FBL Lever	Adjust the FBL (Flange-Back Length) value according to the lens.
4 Auto Iris Lens (Optional)	Installed on the lens adaptor.

- Wipe out a dirty surface of the lens softly with a lens tissue or cloth to which you have applied ethanol.
- Mounting Bracket is not included.
  For more information to use mounting bracket, refer to the product's documentation.

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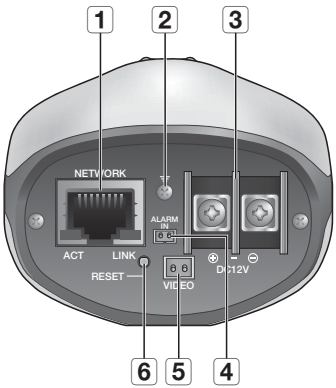
Rear Side



Item	Description
1 Network Port	Used to connect a PoE or LAN cable.
2 Lightning protective grounding port	Used to discharge the lightning current safely outside in order to protect the camera.
3 Power Port	Used to plug the power cable.
4 Alarm Input Port	Used to connect the alarm input signal.
5 Video Out Port	Analog video output port. (for installation)
6 Reset Button	Resets the camera settings to the default. Press and hold for about 5 seconds to reboot the system. ! If you reset the camera, the network settings will be adjusted so that DHCP can be enabled. If there is no DHCP server in the network, you must run the IP Installer program to change the basic network settings such as IP address, Subnet mask, Gateway, etc., before you can connect to the network.

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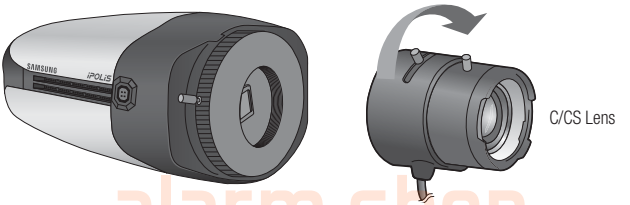
MOUNTING THE LENS

Disconnect the power before proceeding.

- The C lens and CS lens are not included in the product package.

Mounting the lens onto the C/CS mount camera

1. Fit the lens into the mounting screw hole and turn it clockwise. Tighten the screw. Then, it rotates in SLIP mode.



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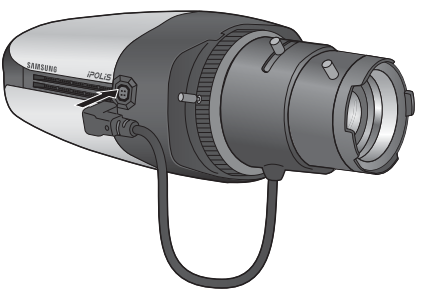
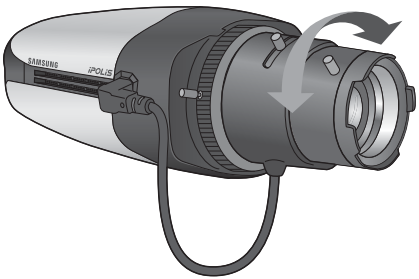
2. Turn it clockwise until it contacts on the stopper and stops.
3. As you can turn it counter clockwise from the stop point to rotate it in Slip mode, adjust the angle to your preference within the range.
4. Connect the lens cable to the camera connector.



5. Use the focus lever and zoom lever to fit the zoom factor and focus. Then, fix the lens with the camera.



Using a lens with hood

The round hood is mounted on the camera lens, which is designed to prevent flare/ghost/ light spreading. If it is installed improperly, it may cause shading on the screen.
Install the hood so that the wider side is placed vertically; and the narrower side is put horizontally.

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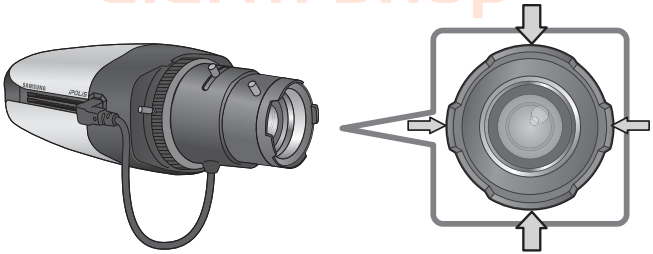
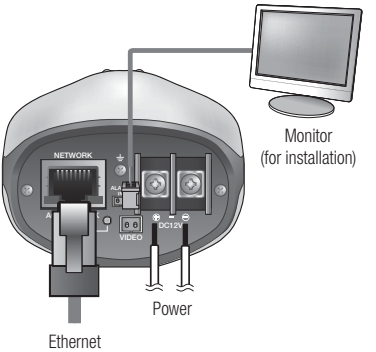


CONNECTING WITH OTHER DEVICE



- The BNC Out terminal of the product is provided for easier installation, and is not recommended for monitoring purposes.
  If you keep the BNC cable connected, a risk of lightening may cause damage or malfunction to the product.

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Ethernet Connection

Connect the Ethernet cable to the local network or to the Internet.

Power Supply

Use the screwdriver to connect each line (+, –) of the power cable to the corresponding power port of the camera.

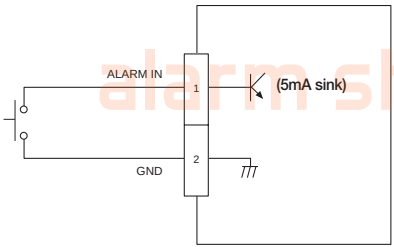
- If both PoE and DC12V are applied simultaneously, the product will be supplied with power from PoE.
  - You can also use a router featuring PoE (Power over Ethernet) to supply power to the camera.
  - Use PoE (Power over Ethernet) that is compliant with the IEEE802.3af protocols.
  - It is advisable to use only one power source from PoE and DC12V.

- Be careful not to reverse the polarity when you connect the power cable.
  - Please connect the power adapter when the installation is completed.
  - As shown in the table below, you may encounter a voltage-sag depending on the wire length. If you use an excessively long wire for camera connection, the camera may not work properly.

Electrical Resistance of Copper Wire at [20°C (68°F)]

Copper Wire Gauge (AWG)	#24(0.22mm²)	#22(0.33mm²)	#20(0.52mm²)	#18(0.83mm²)
Resistance (Ω/m)	0.078	0.050	0.030	0.018
Drop Voltage (V/m)	0.028	0.018	0.011	0.006
Recommended Distance (m)	Less than 20	Less than 30	Less than 30	Less than 30

Alarm input Wiring Diagram



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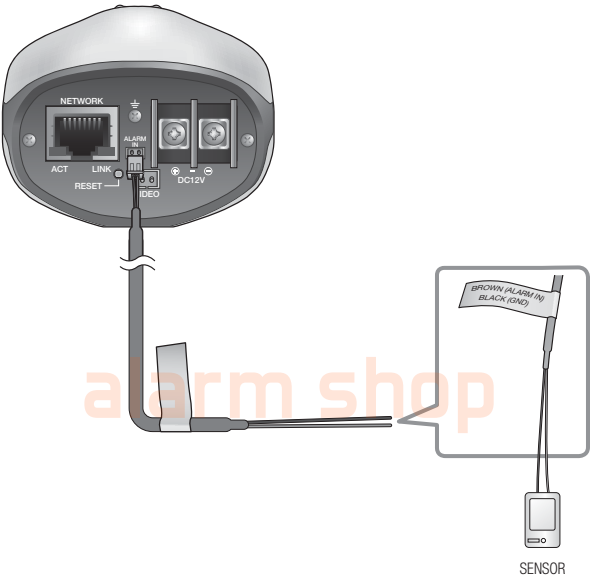
To connect to the alarm input port

Connect the alarm cable to the ALARM IN port in the rear panel.



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Port	Description	Port	Description
ALARM IN	Alarm Input Sensor Port	**GND**	GND port for the sensor

To connect the external sensor

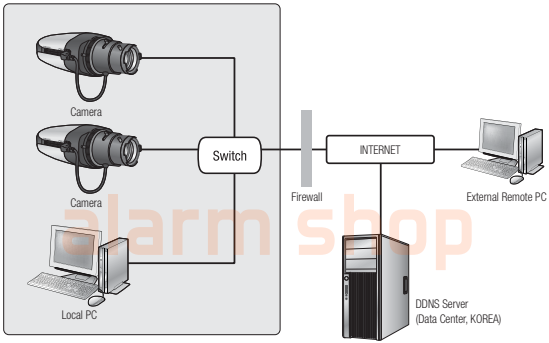
Connect one strand of each signal line (2-strand) of the sensors to the [**ALARM IN**] port, and connect the other strand to the [**GND**] port.

You can set up the network settings according to your network configurations.

CONNECTING THE CAMERA DIRECTLY TO LOCAL AREA NETWORKING

Connecting to the camera from a local PC in the LAN

1. Launch an Internet browser on the local PC.
2. Enter the IP address of the camera in the address bar of the browser.



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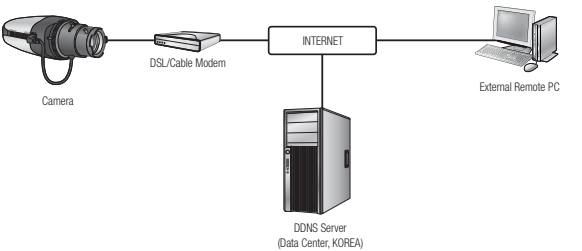
<Local Network>

- A remote PC in an external Internet out of the LAN network may not be able to connect to the camera installed in the intranet if the port-forwarding is not properly set or a firewall is set. In this case, to resolve the problem, contact your network administrator.
- By factory default, the IP address will be assigned from the DHCP server automatically. If there is no DHCP server available, the IP address will be set to 192.168.1.100. To change the IP address, use the IP Installer. For further details on IP Installer use, refer to "**Static IP Setup**". (Page 24)

CONNECTING THE CAMERA DIRECTLY TO A DHCP BASED DSL/CABLE MODEM



1. Use the cross LAN cable to connect the network cable directly to your PC.
2. Run the IP Installer and change the IP address of the camera so that you can use the web browser on your desktop to connect to the Internet.
3. Use the Internet browser to connect to the camera.
4. Move to [**Setup**] page.
5. Move to [**Network**] – [**DDNS**] and configure the DDNS settings.
6. Move to [**Network**] – [**Interface**], and set the network type to [**DHCP**].
7. Connect the camera, which was removed from your PC, directly to the modem.
8. Restart the camera.

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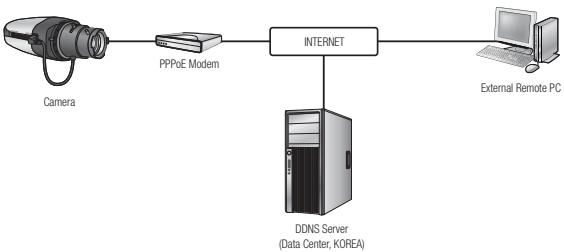
- For registering the DDNS settings, refer to "**Registering with DDNS**". (page 49)
- For configuring the DDNS settings, refer to "**DDNS**". (page 48)
- For setting the network type, refer to "**Interface**". (page 47)

CONNECTING THE CAMERA DIRECTLY TO A PPPoE MODEM



1. Use the cross LAN cable to connect the network cable directly to your PC.
2. Run the IP Installer and change the IP address of the camera so that you can use the web browser on your desktop to connect to the Internet.
3. Use the Internet browser to connect to the camera.
4. Move to [**Setup**] page.
5. Move to [**Network**] – [**DDNS**] and configure the DDNS settings.
6. Move to [**Network**] – [**Interface**], and set the network type to [**PPPoE**].
7. Connect the camera, which was removed from your PC, directly to the modem.
8. Restart the camera.

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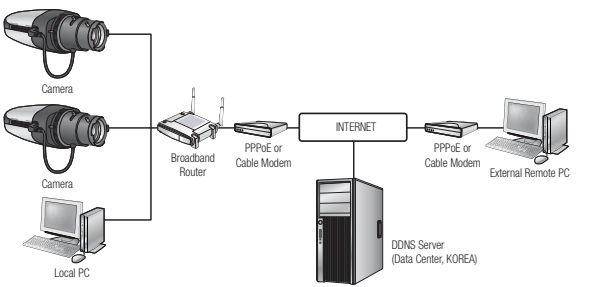
- For registering the DDNS settings, refer to "**Registering with DDNS**". (page 49)
- For configuring the DDNS settings, refer to "**DDNS**". (page 48)
- For setting the network type, refer to "**Interface**". (page 47)

CONNECTING THE CAMERA TO A BROADBAND ROUTER WITH THE PPPoE/CABLE MODEM

This is for a small network environment such as homes, SOHO and ordinary shops.



Configuring the network settings of the local PC connected to a Broadband Router

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Configuring the network settings of the local PC connected to a Broadband Router, follow the instructions below.

- Select : <**Network Neighborhood**> → <**Properties**> → <**Local Area Connection**> → <**Properties**> → <**General**> → <**Internet Protocol (TCP/IP)**> → <**Properties**> → <**Obtain an IP address automatically**> or <**Use the following IP address**>.
- Follow the instructions below if you select <**Use the following IP address**>:

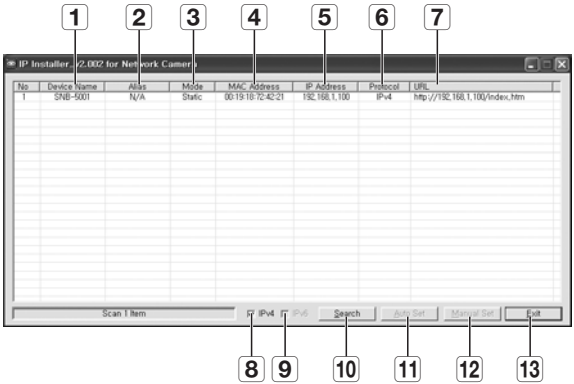
ex1) If the address (LAN IP) of the Broadband Router is 192.168.1.1
IP address : 192.168.1.100
Subnet Mask : 255.255.255.0
Default Gateway : 192.168.1.1

ex2) If the address (LAN IP) of the Broadband Router is 192.168.0.1
IP address : 192.168.0.100
Subnet Mask : 255.255.255.0
Default Gateway : 192.168.0.1

ex3) If the address (LAN IP) of the Broadband Router is 192.168.xxx.1
IP address : 192.168.xxx.100
Subnet Mask : 255.255.255.0
Default Gateway : 192.168.xxx.1

- For the address of the Broadband Router, refer to the product's documentation.
- Refer to the "**Port Range Forward (Port Mapping) Setup**" section of the Broadband Router's documentation. (Page 29)

BUTTONS USED IN IP INSTALLER



Item	Description
1 Device Name	Model name of the connected camera. Click the column to sort the list by model name. However, search will be stopped if clicked during the search.
2 Alias	This function is not currently implemented.
3 Mode	Displays either <**Static**>, <**Dynamic**> or <**PPPoE**> for the current network connection status.
4 MAC(Ethernet) Address	Ethernet address for the connected camera. Click the column to sort the list by Ethernet address. However, search will be stopped if clicked during the search.
5 IP Address	IP address. Click the column to sort the list by IP address. However, search will be stopped if clicked during the search.
6 Protocol	Network setting for the camera. The factory default is “IPv4”. Cameras with the IPv6 setting will be displayed “IPv6”.

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Item	Description
7 URL	DDNS URL address enabling access from the external Internet. However, this will be replaced with the <**IP Address**> of the camera if DDNS registration has failed.
8 IPv4	Scans for cameras with the IPv4 setting.
9 IPv6	Scans for cameras with the IPv6 setting. Activated in an IPv6 compliant environment.
10 Search	Scans for cameras that are currently connected to the network. However, this button will be grayed out if neither IPv4 nor IPv6 is checked.
11 Auto Set	The IP Installer automatically configures the network settings.
12 Manual Set	You should configure the network settings manually.
13 Exit	Exits the IP Installer program.

- For the IP installer, use only the installer version provided in the installation CD or use the latest one if available. You can download the latest version from the Samsung web site (www.samsungcctv.com).

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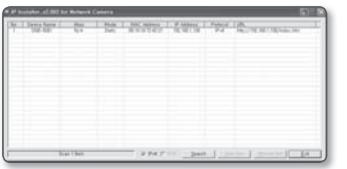
STATIC IP SETUP

Manual Network Setup

Run <**IP Installer_vX.XX.exe**> to display the camera search list.
At the initial startup, both [**Auto Set**] and [**Manual Set**] will be grayed out.

- For cameras found with the IPv6 setting, these buttons will be grayed out as the cameras do not support this function.



1. Select a camera in the search list.
   Find the MAC (Ethernet) address labeled on the rear of the camera.
   Both the [**Auto Set**] and [**Manual Set**] buttons will be activated.
2. Click [**Manual Set**].
   The Manual Setting dialog appears.
   The default values of <**IP Address**>, <**Subnet Mask**>, <**Gateway**>, <**HTTP Port**> and <**VNP Port**> of the camera will be displayed.

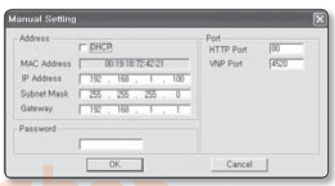
3. In the <**Address**> pane, provide the necessary information.
   - MAC (Ethernet) Address : The MAC (Ethernet) address of the applicable camera will be set automatically so you don't need to input it manually.

▪ You can configure the static IP settings only if the DHCP checkbox is unchecked.

If not using a Broadband Router

For setting <**IP Address**>, <**Subnet Mask**>, and <**Gateway**>, contact your network administrator.

4. In the <**Port**> pane, provide necessary information.
   - HTTP Port : Used to access the camera using the Internet browser, defaulted to 80. Use the spin button to change the HTTP Port value.
   - VNP Port : Used to control the video signal transfer, defaulted to 4520.



5. Enter the password.
   This is the login password for the "**admin**" user who accesses the camera.
   The default password is "**4321**".

▪ The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product.
Note that the security and other related issues caused by the unchanged password shall be responsible for the user.

▪ If you want to change the password, refer to "**Administrator Password Change**" of the user setup. (page 63)

6. Click [**OK**].
   Manual network setup will be completed.

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If using a Broadband Router

- IP Address : Enter an address falling in the IP range provided by the Broadband Router.
  ex) 192.168.1.2~254,
  192.168.0.2~254,
  192.168.XXX.2~254
- Subnet Mask : The <**Subnet Mask**> of the Broadband Router will be the <**Subnet Mask**> of the camera.
- Gateway : The <**Local IP Address**> of the Broadband Router will be the <**Gateway**> of the camera.

- The settings may differ depending on the connected Broadband Router model. For more information, refer to the user manual of the applicable router.
- Refer to the "**Port Range Forward (Port Mapping) Setup**" section of the Broadband Router's documentation. (Page 29)

If the Broadband Router has more than one camera connected

Configure the IP related settings and the Port related settings distinctly with each other.

ex)

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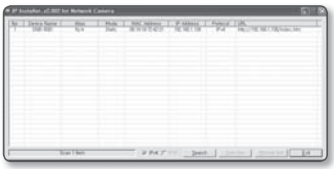
Category		Camera #1	Camera #2
IP related settings	IP Address Subnet Mask Gateway	192.168.1.100 255.255.255.0 192.168.1.1	192.168.1.101 255.255.255.0 192.168.1.1
Port related settings	HTTP Port VNP Port	8080 4520	8081 4521

- If the <**HTTP Port**> is set other than 80, you must provide the <**Port**> number in the address bar of the Internet browser before you can access the camera.
  ex) http://IP address : HTTP Port
  http://192.168.1.100:8080

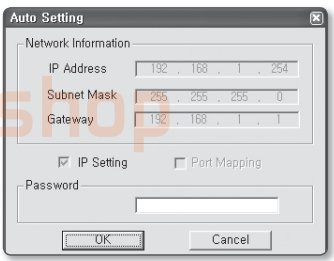
Auto Network Setup

Run <**IP Installer_vX.XX.exe**> to display the camera search list.
At the initial startup, both [**Auto Set**] and [**Manual Set**] will be grayed out.

- For cameras found with the IPv6 setting, these buttons will be grayed out as the cameras do not support this function.



1. Select a camera in the search list.
   Find the MAC (Ethernet) address labeled on the rear of the camera.
   Both the [**Auto Set**] and [**Manual Set**] buttons will be activated.
2. Click [**Auto Set**].
   The Auto Setting dialog appears.
   The <**IP Address**>, <**Subnet Mask**>, and <**Gateway**> will be set automatically.
3. Enter the password.
   This is the login password for the "**admin**" user who accesses the camera.
   The default password is "**4321**".
   - The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product.
     Note that the security and other related issues caused by the unchanged password shall be responsible for the user.
   - If you want to change the password, refer to "**Administrator Password Change**" of the user setup. (page 63)



4. Click [**OK**].
   Auto network setup will be completed.

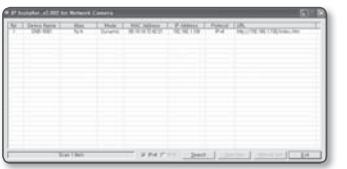
DYNAMIC IP SETUP

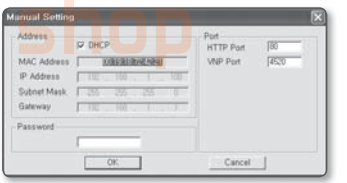
Dynamic IP Environment Setup

- Example of the Dynamic IP environment
  - If a Broadband Router, with cameras connected, is assigned an IP address by the DHCP server
  - If connecting the camera directly to modem using the DHCP protocols
  - If IPs are assigned by the internal DHCP server via the LAN

Checking the Dynamic IP

1. Run the IP Installer on the user's local machine to display cameras allocated with <**Dynamic IP**> addresses in the list.
2. Select a camera in the list, and click [**Manual Set**] to check the <**Dynamic IP**> of the camera.
   If you uncheck <**DHCP**>, you can change IP to <**Static**>.





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PORT RANGE FORWARD (PORT MAPPING) SETUP

If you have installed a Broadband Router with a camera connected, you must set the port range forwarding on the Broadband Router so that a remote PC can access the camera in it.

Manual Port Range Forwarding

1. From the Setup menu of the Broadband Router, select <**Applications & Gaming**> - <**Port Range Forward**>. For setting the port range forward for a third-party Broadband Router, refer to the user guide of that Broadband Router.
2. Select <**TCP**> and <**UDP Port**> for each connected camera to the Broadband Router.
   Each port number for the Broadband Router should match that specified in <**Network**> - <**Port**> from the camera's Setup menu.
3. When done, click [**Save Settings**]. Your settings will be saved.

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- Above sample instructions are based on the CISCO's Broadband Router (Model: LINKSYS).
- The settings may differ depending on the connected Broadband Router model. For more information, refer to the user manual of the applicable router.

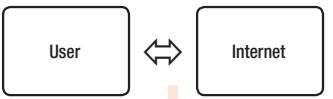
Setting up Port Range Forward for several network cameras

When several network cameras are connected to one Broadband Router device, you should forward the TCP 943 port of the router to the TCP 943 port of a connected camera.

- If you don't set properly the TCP 943 port of the router, you cannot get any video stream from the web page of the camera.

- TCP 943 port is a port for the Silverlight policy server of a camera.
- You can set a rule of Port Forwarding on the Broadband Router device through its configuration web page.
- You cannot change the Silverlight policy server port of a camera.
- You can change the ports of the camera except the policy server port through its configuration web pages.

When Camera1 and Camera2 are connected to a router :



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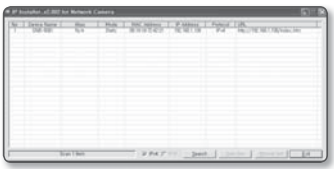
Broadband Router			
Start	End	Protocol	IP Address
943	943	TCP	192.168.1.100
3000	3000	TCP/UDP	192.168.1.100
3001	3001	TCP/UDP	192.168.1.101
4520	4520	TCP/UDP	192.168.1.100
4521	4521	TCP/UDP	192.168.1.101
8080	8080	TCP/UDP	192.168.1.100
8081	8081	TCP/UDP	192.168.1.101

Camera1 (192.168.1.100)	
Web Server Port	8080
VNP Port	4520
RTSP Port	3000
Policy Server Port	943

Camera2 (192.168.1.101)	
Web Server Port	8081
VNP Port	4521
RTSP Port	3001
Policy Server Port	943

CONNECTING TO THE CAMERA FROM A SHARED LOCAL PC

1. Run the IP Installer.
   It will scan for connected cameras and display them as a list.
2. Double-click a camera to access.
   The Internet browser starts and connects to the camera.



- Access to the camera can also be gained by typing the camera's IP address in the address bar of the Internet browser.

CONNECTING TO THE CAMERA FROM A REMOTE PC VIA THE INTERNET

Since using the IP Installer on a remote computer that is not in the Broadband Router's network cluster is not allowed, users can access cameras within a Broadband Router's network by using the camera's DDNS URL.

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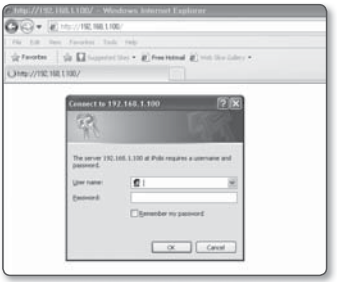
1. Before you can access a camera in the Broadband Router network, you should have set the port range forward for the Broadband Router.
2. From the remote PC, launch the Internet browser and type the DDNS URL address of the camera, or the IP address of the Broadband Router in the address bar.
   ex) http://www.samsungipolis.com/[Product ID]
   For registering the DDNS settings, refer to "**Registering with DDNS**". (page 49)

CONNECTING TO THE CAMERA

Normally, you would



1. Launch the Internet browser.
2. Type the IP address of the camera in the address bar.
   ex) • IP address (IPv4) : 192.168.1.100
   → http://192.168.1.100
   - the Login dialog should appear.
   • IP address (IPv6) : 2001:230:abcd:ffff:0000:0000:ffff:1111
   → http://[2001:230:abcd:ffff:0000:0000:ffff:1111] - the Login dialog should appear.

If the HTTP port is other than 80

1. Launch the Internet browser.
2. Type the IP address and HTTP port number of the camera in the address bar.
   ex) IP address : 192.168.1.100:HTTP Port number(8080)
   → http://192.168.1.100:8080 - the Login dialog should appear.

Using URL

1. Launch the Internet browser.
2. Type the DDNS URL of the camera in the address bar.
   ex) URL address : http://www.samsungipolis.com/[Product ID]
   - the Login dialog should appear.

To check the DDNS address

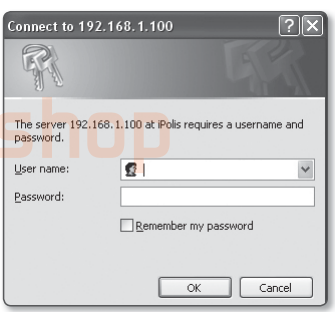
If the camera is connected directly to the DHCP cable modem, DSL modem, or PPPoE modem, the IP address of your network will be changed each time you try to connect to the ISP (Internet Service Provider) server.
If this is the case, you will not be informed of the IP address changed by DDNS.

Once you register a dynamic IP-based device with the DDNS server, you can easily check the changed IP when you try to access the device.
To add the IP address to the <**DDNS**> server, visit www.samsungipolis.com and register your device, and set the DDNS option to <**Samsung DDNS**> before providing the product ID for the DDNS server.

LOGIN

The default user ID is "**admin**", and the default password is "**4321**".

1. Enter "**admin**" in the <**User Name**> input box.
2. Enter "**4321**" in the <**Password**> input box.
   If the password is changed, enter the changed password instead.
3. Click [**OK**].
   If you have logged in successfully, you will the Live Viewer screen.



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- For security purposes, ensure that you change the password in <**System**> - <**User**>.
  The administrator ID, "**admin**", is fixed and can not be changed.
- The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product.
  Note that the security and other related issues caused by the unchanged password shall be responsible for the user.
- If you check the "**Remember my password**" option when your input is done, in future you will be logged in automatically without being prompted to enter the login information.

- You will experience the best video quality if the screen size is 100%. Reducing the ratio may cut the image on the borders.

INSTALLING STW WebViewer PLUGIN

If connecting to a camera for the first time, you will see the installation message. Then, install the required WebViewer Plugin to access the camera and control the video from it in real time.

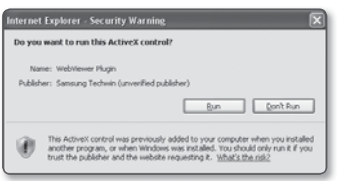
- Microsoft Visual C++ 2010 Redistribute Package should be installed on the PC before you can install the Web viewer plug-in. If it is not installed yet, you will see the error message of "There is no VC++ 2010 runtime installed. Please install the runtime library."
  Run vcredist_x86.exe from the installation CD.

1. When accessing the start screen of the monitoring page, click the yellow warning message in the top of the page.

IPOLIS NETWORK CAMERA WEBVIEWER - Windows Internet Explorer
File Edit View Favorites Tools Help
Favorites
IPOLIS NETWORK CAMERA WEBVIEWER

2. Click <**Run Add-on on All Websites**>.

3. The security warning popup appears, click [**Run**].


Internet Explorer - Security Warning
Do you want to run this ActiveX control?
Name: WebViewer Plugin
Publisher: Samsung Techwin (unverified publisher)
Run
Don't Run
This ActiveX control was previously added to your computer when you installed another program, or when Windows was installed. You should only run it if you trust the publisher and the website requesting it. What's the risk?

4. When the Web viewer plug-in is installed properly, you will see the live screen displayed.

USING THE LIVE SCREEN

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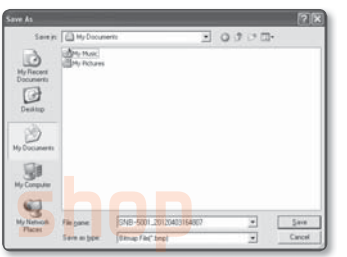
Item	Description
1 Monitoring	Move to the monitoring screen.
2 Setup	Move to the Setup screen.
3 Viewer Screen	Displays the Live video on the screen.
4 Profile type	You can select a profile type in <**Video profile**> under the <**Video**> setup menu.
5 Capture	Saves the snapshot as an image file in the .bmp or .jpg format.
6 Full Screen	Switch the current video to the maximum size of the monitor.
7 Fix the resolution	The camera video will be set to a resolution of 640 x 480. Press it again to switch back to the default resolution.

Item	Description
8 Screen Optimization	The video size of the camera will switch to as big as the Web browser.
9 Hide the context menu	The left-corner context menu will disappear but only the menu icon.

- Use the mouse wheel to control the digital zooming.

To capture the snapshot

1. Click [ ] on the scene to capture.
   The Capture dialog should appear.
2. Click [**Save**] button.
   The screenshot will be saved in the specified path.



- If you encounter an interrupted video when capturing the image with IE8 on a Windows 7-based PC, deselect "**Turn On Protected Mode**" from "**Tools – Internet Options – Security**".

To fit the full screen

1. Click the [**Full Screen ( )**] button.
2. This will fit the Viewer to the full screen.
3. To exit the full screen mode, press [**Esc**] on the keyboard.

- For the Internet Explorer and Google Chrome browser, you can switch to the full screen.

SETUP

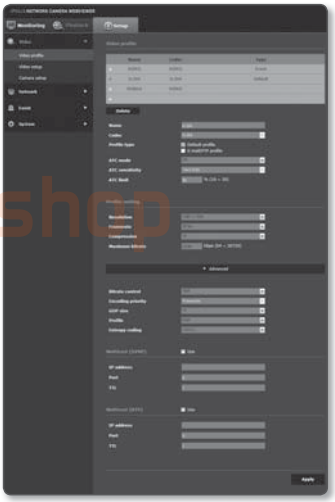
You can configure the video, network, event and system settings of the camera via the network.

1. In the Live screen, click [**Setup** (Setup)].
2. The Setup screen appears.

VIDEO SETUP

Video profile

1. From the Setup menu, select the <**Video** ( )> tab.
2. Click <**Video profile**>.
3. Select a <**Video profile**> option.
4. Click the input box of each item and enter / select a desired value.
   - The context menu may differ depending on the selected codec type.
   - Default profile : This is the default video profile.
   - E-mail/FTP profile : Video profile to be transferred to the specified email or FTP site.
     - Only the MJPEG codec can be set as the E-mail/FTP profile.



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5. Configure the ATC mode settings.

- ATC mode : It adjusts the video properties according to the variance in the network bandwidth, controlling the bit rate. Adjusting the bit rate depends on the ATC mode.
  - Control framerate : Reduce the frame rate if the network bandwidth drops down.
  - Control compression : Control the compression rate if the network bandwidth drops down.
    Compression adjustment can cause deterioration of the image quality.
  - If <**Bitrate control**> is set to <**CBR**>, the encoding priority according to the ATC mode will be fixed as below:

Bitrate control / ATC mode	Control framerate	Control compression
CBR	Framerate	Compression

- ATC sensitivity : Affect the transfer rate according to the variance in the network bandwidth.
  The transfer rate will be adjusted to the fastest if the bandwidth is "**Very high**", and adjusted to the latest if the bandwidth is "**Very low**".
- ATC limit : If the quality or frame rate is adjusted, the property will be changed to the applied value (%) against the previous setting value (100%).
  Note that if you reduce the property value too much, you may encounter flickering on the screen. So it is advisable to adjust the value within the threshold.

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- It is recommended to enable ATC in a network system equipping ATC compliant cameras.
- Set the ATC sensitivity to "**Very low**" in a network environment with high variance in the network bandwidth.
- If the network connection is unstable, you may encounter flickering on the screen.

6. When done, click [**Apply (** Apply **)**].

- For SNB-7001, select and set <**Megapixel Mode**>.
  You can choose from <**2-Megapixel**> and <**3-Megapixel**>. If you change the mode, the confirmation message appears before the change is applied.

To add a video profile

You can add as many codecs as necessary so that a variety of profiles can be applied according to the recording condition.

1. Select one from the <**Video profile**> options.
2. Provide the name and select a codec.
3. Specify the conditions under which the codec will be applied.
4. Specify the details of the selected codec including resolution and frame rate. Click <**Advanced**> to display the context menu.
   - Resolution : Set the video size of the H.264 and MJPEG files.
   - Framerate : Specify the frame rate.
   - Compression : Specify the compression rate of the video.
   - Maximum bitrate : Specify the maximum bit rate of the video.

   ▪ As the bit rate can be adjusted limitedly according to the resolution, frame rate and screen complexity, the actual bit rate can be greater than the maximum bit rate. So you must consider the use conditions when setting the value.

   - Bitrate control : You can select one from constant bit rate and variable bit rate for compression. Constant bit rate (CBR) varies the video quality and fixes network transfer bit rate, while variable bit rate emphasizes the quality by varying network transfer bit rate.
   - Encoding priority : You can set the video transfer method to Framerate or Compression.
   - GOP size : Select a GOP size between 1 and 15.
   - Profile : You can select the H.264 profiling method.
   - Entropy coding : Reduce the possible compression loss due to encoding.
   - Smart codec : Specify the use of Smart codec.

   ▪ This is available only with SNB-7001.
   The Smart Codec will be active only if the codec is of H.264 and the compression system is CBR.

   - Multicast(SVNP) : Specify the use of the SVNP protocol.
     - IPv4 : Enter an IPv4 address with which you can connect to the IPv4 network.
     - Port : Specify the video communication port.
     - TTL : Set the TTL for the SVNP packet.
   - Multicast(RTP) : Specify the use of the RTP protocol.
     - IPv4 : Enter an IPv4 address with which you can connect to the IPv4 network.
     - Port : Specify the video communication port.
     - TTL : You can set the TTL for the RTP packet.

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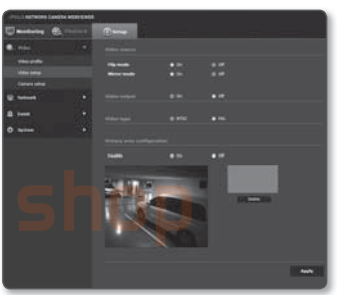
What is GOP size?

GOP(Group of Pictures) is a set of video frames for H.264 compression, indicating a collection of frames from the initial I-Frame (key frame) to the next I-Frame. GOP consists of 2 kinds of frames: I-Frame and P-Frame.

I-Frame is the basic frame for the compression, also known as Key Frame, which contains one complete image data. P-Frame contains only the data that has changed from the preceding I-Frame.

You can specify a value between 1 and 15 for the H.264 CODEC.

Video setup



1. From the Setup menu, select the <**Video (** **)**> tab.
2. Click <**Video setup**>.
3. Select a <**Video source**> mode.
   - Flip mode : Turn upside down the image that is captured by the camera.
   - Mirror mode : Flip horizontal the image that is captured by the camera.
4. Set the <**Video output**>.
   - If you select <**Off**>, the video signal will not be output via the VIDEO OUT port.
5. Select the video type.
6. Specify the privacy zone.
7. When done, click [**Apply (** **)**].

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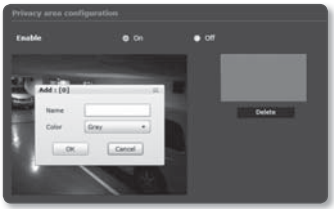
To set the privacy zone

You can specify a certain area of the camera video to be protected for your privacy.

1. Set it to <**On**>.
2. When done, click [**Apply (** Apply **)**].
3. Place the cursor at a point in the video and drag it to whatever you need.
4. Provide a name and press [**OK**].
5. If you want to delete an area in the list, select one and click [**Delete (** Delete **)**].



Camera setup

You can change the camera settings according to the environment where the camera is located.

1. From the Setup menu, select the <**Video (** **)**> tab.
2. Click <**Camera setup**>.
3. Configure the settings as necessary of : White balance, Backlight, Exposure, Special, OSD, Time OSD
4. When done, click [**Apply (** Apply **)**].
   - If a certain time (timeout: 240s) is elapsed with your not pressing the [**Apply (** Apply **)**] button after changing the settings, your changes will not be applied.

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White balance Setup

You can correct the image colors based on white under any lighting conditions.

1. Select <**White balance**>.
2. Select <**Mode**>.
   - ATW : Corrects the colors of the camera video automatically.
     It is available in the color temperature of between 1,800°K and 10,500°K.
   - Manual : You can adjust the red and blue gains of the camera video manually.
   - AWC : Corrects the colors of the camera video to be optimized to the current lighting condition and screen mode.
     To obtain the optimal condition for the current lighting, put the focus of the camera to a white paper and press the [**AWC Set**] button. If the lighting environment is changed, you should readjust the settings accordingly.
   - Outdoor : Automatically corrects the video colors of the camera to be optimized to the outdoor environment.
     It is available in the color temperature of between 1,800°K and 10,500°K. (including natrium lamp)
   - Indoor : Automatically corrects the video colors of the camera to be optimized to the indoor environment.
     It is available in the color temperature of between 4,500°K and 8,500°K.

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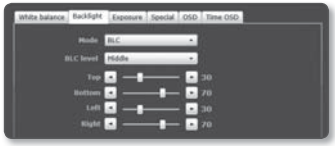
- In AWC mode, click the [**AWC Set**] button if you want to keep the white balance level of the current image.

- The white balancing may not work properly in the following conditions:
  If this is the case, switch to AWC mode.
  - If the surrounding condition of the object is out of the temperature correction range
    ex) Clear sky, sunset
  - If the surrounding of the object is dark
  - If the focus of the camera directly faces the florescent lighting or if the camera is installed in a place of variable illumination, the white balancing operation may be unstable.

BLC Setup

You can specify a desired area on the video manually and set the area to be displayed more clearly.



1. Select <**Backlight**>.
2. Set <**Mode**> to <**BLC**>.
3. Set <**BLC level**>.
   You can change the level to adjust the brightness of the monitoring area.
4. Set the <**Top, Bottom, Left, Right**> levels to specify the target area.

Exposure Setup

You can adjust the exposure level of the camera.

1. Select <**Exposure**>.
2. Select each item and set it properly.
   - Brightness : Adjust the screen brightness.
   - Iris : Adjust the iris of the camera manually or automatically.
     - Auto : Depending on the settings, such as brightness and shutter speed, the iris will be adjusted.
     - Manual : Fix to Full Open.
       - For a camera with the shutter type of AUTO, the iris will operate properly only if it is set to <**Manual**>.
   - Shutter mode : Adjust the electronic shutter of the camera.
     - Auto : Adjust the shutter speed automatically according to the ambient brightness.
     - Manual : Adjust the shutter speed of the camera manually.
     - A.FLK (Anti flicker) : Select this feature if you encounter a flickering screen due to a frequency mismatch with the ambient lighting.
   - Shutter speed : Control the shutter speed manually.
   - SSNR : Specify the reduction level of background noise for a low contrast scene.

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- Sens-up mode : Automatically senses the darkness level at night or in a low contrast scene and extends the accumulation time accordingly for a bright and sharp image.
  - If you set the shutter mode to Manual/A.FLK, SENS-UP mode will be deactivated.
  - The greater the Sens-Up factor is, the brighter the screen becomes but it may result in an afterimage or video delay.
  - Sens-up is limited to x30 in maximum if two or more users of different profiles are accessing at the same time.
- Sens-up limit : Set the work condition to Auto mode in a low contrast scene.
- AGC mode : Select AGC Control mode.
  Adjust the gain value of the video (that, in particular, was recorded at a low contrast scene and had a lower brightness level than normal) to control the video brightness.

Special Setup

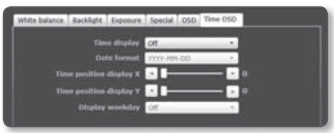
1. Select <**Special**>.
2. Select each item and set it properly.

   - Day & night : You can switch the mode to adjust the black and white level as well as the colors.
     - Color : Always displays the video in colors.
     - B/W : Always displays the video in black and white.
     - Auto : Displays in color mode during normal daytime and switches to black and white mode in a low contrast scene at night.
       - If you set the AGC mode to OFF from <**Exposure**>, the AUTO DAY/NIGHT mode will be disabled accordingly.
   - Dwell time : This is the time while each applicable lighting condition is kept in order to enable the switch between day and night modes.
   - Duration : Specify the time interval of lighting at which the sequence operation is triggered.
   - Sharpness mode : Adjust the overall sharpness of the image.
     If selecting <**On**>, you can adjust the sharpness of the image.
   - Sharpness level : The higher the level is, the sharper and clearer the outline of the image becomes.
   - Gamma : Adjust the contrast of the image.
   - Color level : Adjust the color level of the image.

OSD Setup

1. Select <**OSD**>.
2. Select each item and set it properly.
   - Camera title : Specify whether or not to display the camera title on the screen.
     - You can enter up to 15 characters for the title.
   - Camera title position X, Y : Specify the coordinates where the camera title is displayed on the screen.

Time OSD Setup



1. Select <**Time OSD**>.
2. Select each item and set it properly.
   - Time display : Specify the use of time display on the screen.
   - Date format : Specify the date format that will be displayed on the screen.
   - Time position display X, Y : Specify the position of time display on the screen.
   - Display weekday : Specify the use of date display date on the screen.

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Smart codec setup (SNB-7001)

Set a desired area of the video incoming from the camera as ROI area and specify the detection sensitivity for the area.

1. From the Setup menu, select the <**Video (** **)**> tab.
2. Click <**Smart codec setup**>.
3. Set the image quality.
   The ROI area will be displayed in the specified quality.
4. Select a desired area with the mouse pointer and drag it as much as you want.
   - You can specify up to 5 distinct areas.

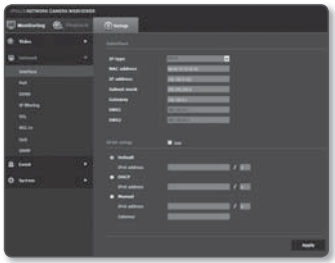
5. To cancel all the settings for the area, click the [**Clear (** Clear **)**] button.
6. When done, click [**Apply (** Apply **)**].

- The Smart codec will not be active if it is set to <**Off**> in <**Video profile**>. (page 37)

alarm shop

NETWORK SETUP

Interface



1. From the Setup menu, select the <**Network (** **)**> tab.
2. Click <**Interface**>.
3. Set the <**Interface**> and <**IPv6 setup**> as necessary.
   - IP type : Select an IP connection type.
     - Manual : Specify the IP address, Subnet mask, Gateway, DNS1, and DNS2.
     - DHCP : Specify the DNS1 and DNS2.
     - PPPoE : Specify the DNS1, DNS2, ID and Password.
       - If you set it to <**Manual**>, you should specify the IP, Subnet mask, Gateway, DNS 1 & 2 manually.
   - MAC address : Shows the MAC address.
   - IP address : Displays the current IP address.
   - Subnet mask : Displays the <**Subnet mask**> for the set IP.
   - Gateway : Displays the <**Gateway**> for the set IP.
   - DNS1/DNS2 : Displays the DNS(Domain Name Service) server address.
   - Default : Use the default IPv6 address.
   - DHCP : Display and use the IPv6 address obtained from the DHCP server.
   - Manual : Enter IP address and gateway manually and use it.
4. When done, click [**Apply (** **)**].

security shop

- The IP addressing system will be defaulted to DHCP. If no DHCP server is found, the previous settings will be restored automatically.

Port

1. From the Setup menu, select the <**Network ( )**> tab.
2. Click <**Port**>.
3. Type in each item in the Port menu as necessary.
   - Neither the port range between 0 and 1023 nor port 3702 is available.
   - HTTP port : HTTP port used to access the camera via the web browser. The default is 80(TCP).
   - Device port : Set a port used to transfer video signals with the Samsung protocols.
   - RTSP port : Used to transfer videos in the RTSP mode; the default is 554.
   - Web streaming port : Used to transfer videos to the Web Viewer; the default is 4520.
   - Silverlight policy port : Silverlight is used to permit to acquire a network connection; the default is 943.

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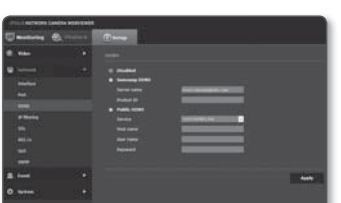
- The port range of the Web Streaming is between 4502 and 4534. If the Device port is with this effective range, the Web Streaming port should be specified the same as the Device port.
- You cannot change the Web Streaming/Silverlight policy server port of a camera.

4. When done, click [**Apply (Apply)**].

DDNS

DDNS is an abbreviation of Dynamic Domain Name Service that converts the IP address of a camera into a general Host Name so that the user can easily remember it.



1. From the Setup menu, select the <**Network ( )**> tab.
2. Click <**DDNS**>.
3. Select <**DDNS**>.
4. Type in the DDNS items according to the selected type.
   - Samsung DDNS : Select this if you use the DDNS server provided by Samsung Techwin.
     - Product ID : Enter the product ID that is registered with the Samsung DDNS service.

- Public DDNS : Select one of provided public DDNS servers when you use a public DDNS server.
  - Host name : Enter the name of the host (i.e., host name of Dyndns) that is registered with the DDNS server.
  - User name : Enter the user name for the DDNS service. (i.e., user ID that is registered with Dyndns)
  - Password : Enter the password for the DDNS service. (i.e., password that is registered with Dyndns)

5. When done, click [**Apply (** Apply **)**].

Registering with DDNS

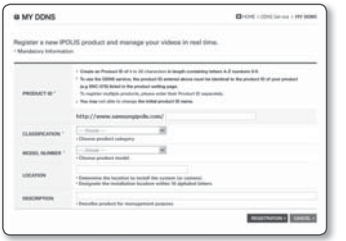
To register your product with the Samsung DDNS

1. Visit the iPOLiS web site (www.samsungipolis.com) and sign in with a registered account.

2. From the top menu bar, select <**DDNS SERVICE**> - <**MY DDNS**>.

3. Click [**PRODUCT REGISTRATION**].
4. Enter the product ID.
   - You must perform the duplicate check for the ID that you entered.

5. Select a <**CLASSIFICATION**> and specify the <**MODEL NUMBER**>.
6. Specify the product location with a description if necessary.
7. Click [**REGISTRATION**].
   The product will be added to the product list that you can check.



To connect to the Samsung DDNS in camera setup

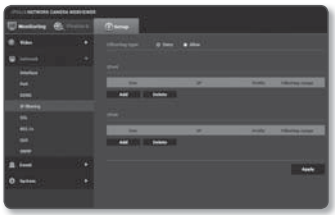
1. From the DDNS setup page, set <**DDNS**> to <**Samsung DDNS**>.
2. Provide the <**Product ID**> that you registered product ID with the DDNS site.
3. Click [**Apply (** Apply **)**].
   When the connection is successfully made, you will see the message of <**(Success)**> on the screen.

Configuring public DDNS in Camera Settings

1. Open the DDNS settings page and select <**Public DDNS**> for <**DDNS**>.
2. Enter the corresponding site's host name, user name and password.
3. Click [**Apply (** Apply **)**] button.
   If the connection properly establishes, <**(Success)**> appears.
4. When done, click [**Apply (** Apply **)**].

IP filtering

You can create a list of IPs that you want to grant or deny access to them.



1. From the Setup menu, select the <**Network (** **)**> tab.
2. Click <**IP filtering**>.
3. Select <**Filtering type**>.
   - Deny : If selecting this, access from those IPs that are added to the filtering will be restricted.
   - Allow : If selecting this, access from only those IPs that are added to the filtering will be accepted.
4. Click the [**Add (** Add **)**] button.
   The IP list will be created.
5. Provide the IP that you want to grant or deny access from.
   When you enter an IP address and a Prefix, the list of IP addresses available will appear in the right-side filter range column.

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- Only the IP addresses that are set to <**Use**> will be displayed in the filter column.

6. Select an IP to delete from the list.
   Click the [**Delete (** Delete **)**] button.
7. When done, click [**Apply (** Apply **)**].

SSL

You can select a secure connection system or install the public certificate for this purpose.

1. From the Setup menu, select the <**Network (** **)**> tab.
2. Click <**SSL**>.
3. Select a secure connection system.
   - To access the camera using HTTPS mode, you have to type the IP address for the camera in the form of "https://<Camera_IP>".
     If you failed to configure the Web viewer settings in HTTPS mode with Internet Explorer, edit the Internet options as follows: <Menu → Tools → Internet Options → Advanced → Security → Uncheck TLS 1.0, and check TLS 1.1, TLS 1.2>
4. Search for the public certificate that you want to install on the camera.
   To install the certificate on the camera, you need to provide a certificate name (it can be arbitrarily assigned by the user), certificate file issued from the certification authority and a key file.
   - The <**HTTPS (Secure connection mode using the public certificate)**> item will be active only if there exists a public certificate installed.
5. When done, click [**Apply (** **Apply** **)**].

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Installing the certificate

1. Enter the certificate name.
2. Select the certificate file to be installed and certificate key, and click [**Install (** **Install** **)**] button.

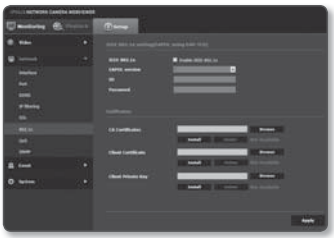
Deleting the certificate

1. Click [**Delete (** **Delete** **)**] button.
2. To delete a public certificate, you should access the network video decoder in the mode of <**HTTP (Do not use secure connection)**> or <**HTTPS (Secure Connection mode using a unique certificate)**>.

802.1x

When connecting network, you can choose whether using 802.1x protocol, and then install the certification.

1. From the Setup menu, select the <**Network (** **)**> tab.
2. Click <**802.1x**>.
3. Set the <**IEEE 802.1x Setting(EAPOL using EAP-TLS)**>.
   - Enable IEEE 802.1x : Specify the use of the 802.1x protocol.
   - EAPOL Version : Select version 1 or 2.
   - ID : Enter the EAPOL ID.
   - Password : Enter the EAPOL password.



- If the connected network device does not support the 802.1x protocol, the protocol will not operate properly even if you set it.

4. Install/remove the certificate.
   - CA Certificates : Select a public certificate that contains the public key.
   - Client Certificate : Select a public certificate that contains the client certificate key.
   - Client Private Key : Select a public certificate that contains the client private key.
5. When done, click [**Apply (** Apply **)**].

To install/remove 802.1x related certificates

1. Press the [**Browse (** Browse **)**] button for each item and select a certificate to install.
2. If no certificate is installed, you will see “Not Available” appearing next to the selected item.
3. Press the [**Install (** Install **)**] button to start installation with a message of “Installed” next to the item.
4. Press the [**Delete (** Delete **)**] button to remove the certificate.

QoS

You can specify the priority to secure a stable transfer rate for a specific IP.

1. From the Setup menu, select the <**Network ( )**> tab.
2. Click <**QoS**>.
3. Click the [**Add (** Add **)**] button. The IP list will be created.
4. Enter an IP address to which you will apply QoS.

- The default prefix for IPv4 is 32; For DSCP, the default is set to 63.
- Only the IP addresses that are set to <**Use**> can be prioritized.

5. Select an IP to delete from the list. Click the [**Delete (** Delete **)**] button.
6. When done, click [**Apply (** Apply **)**].

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SNMP

With the SNMP protocols, the system or network admin can monitor the network devices on a remote site, and configure the environment settings.

1. From the Setup menu, select the <**Network ( )**> tab.
2. Click <**SNMP**>.
3. Specify the <**SNMP**>.
   - Enable SNMP v1 : SNMP version 1 will be active.
   - Enable SNMP v2c : SNMP version 2 will be active.
     - Read Community : Provide the name of the read community where you can access to the SNMP information. The default name is “pubic”.
     - Write Community : Provide the name of the write community where you can access to the SNMP information. The default name is “write”.

- Enable SNMP v3 : SNMP version 3 will be active.
  - Password : Specify the default password for SNMP version 3. The default password is “admin4321”.
    - The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product.
      Note that the security and other related issues caused by the unchanged password shall be responsible for the user.

4. When done, click [**Apply (** Apply **)**].

- SNMP v3 is only able to be set when the secure connection mode is HTTPS.
  Refer to “**SSL**”. (page 52)

EVENT SETUP

FTP / E-mail

You can configure the FTP/E-mail server settings so that you can transfer the images taken with camera to your PC if an event occurs.

1. From the Setup menu, select the <**Event (** **)**> tab.
2. Click <**FTP / E-mail**>.
3. Select <**FTP configuration**> or <**E-mail configuration**> and enter / select a desired value.
   - FTP configuration
     - Server address : Enter the IP address of the FTP server that you transfer the alarm or event images to.
     - ID : Enter the user ID with which you will log in to the FTP server.
     - Password : Enter the user account password for logging into the FTP server.
     - Upload directory : Specify the FTP path where you will transfer the alarm or event images.
     - Port : The default port of the FTP server is 21; however, you can use a different port number according to the FTP server settings.
     - Passive mode : Select <**On**> if you need to connect in passive mode due to the firewall or the FTP server settings.

- E-mail configuration
  - Server address : Enter the IP address of the email server that you transfer the alarm or event images to.
  - Use authentication : Select whether to use authorization.
  - Use SSL : Specify the use of SSL.
  - ID : Enter the user ID for logging into the email server.
  - Password : Enter the user account password for logging into the email server.
  - Port : The default port of the email server is 25; however, you can use a different port number according to the email server settings.
  - Recipient : Enter the address of the email recipient.
  - Sender : Enter the address of the email sender. If the sender address is incorrect, the email from the sender may be classified as SPAM by the email server and thus may not be sent.
  - Subject : Enter a subject for your email.
  - Body : Provide the text for the massage. Attach the alarm or event images to the email that you are preparing.

4. When done, click [**Apply (** **)**].

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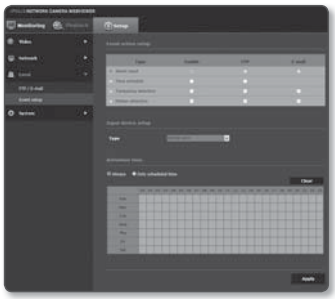
Alarm input

You can set the alarm input type, activation time, and operation mode.



1. From the Setup menu, select the <**Event (** **)**> tab.
2. Click <**Event setup** >.
3. Select <**Alarm input**> from <**Event action setup**>.
4. Set whether or not to <**Enable**>.
5. Specify an input device.
   - Type
     - Normal open : It is normally open, but if it is closed, an alarm will be triggered.
     - Normal close : It is normally closed, but if it is open, an alarm will be triggered.
6. Specify the <**Activation time**>.
   - Always : Always check if an alarm occurs. It activates in operated mode when the alarm occurs.
     - If set to Always, the activation time cannot be changed.
   - Only scheduled time : Check if an alarm occurs at a specified day of the week for a specified time period. It activates in operated mode when the alarm occurs.
   - [Clear (Clear)] : Deselect the selected times.
7. Specify an operation that will perform if an alarm occurs.
   - FTP : Specify the use of FTP transfer in the alarm input setup.
   - E-mail : Specify the use of email transfer in the alarm input setup.
8. When done, click [**Apply (** Apply **)**].

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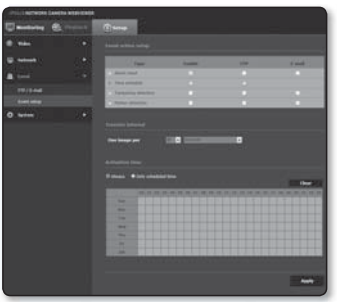
Time schedule

You can configure so that an event will occur at a scheduled time regardless of the actual occurrence of the event.



1. From the Setup menu, select the <**Event (** **)**> tab.
2. Click <**Event setup**>.
3. Select <**Time schedule**> from <**Event action setup**>.
4. Set whether or not to <**Enable**>.
5. Specify the <**Transfer interval**>.
6. Specify the <**Activation time**>.
   - Always : Always activates in operated mode at the set interval.
   - Only scheduled time : Periodically activates in operated mode at a specified time and date.
7. Specify the activation conditions.
   - FTP : Specify the use of the FTP transfer if an event occurs.
8. When done, click [**Apply (** **Apply** **)**].

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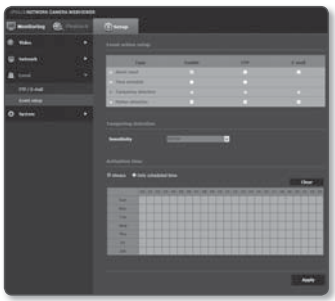
Tampering detection

You can set to trigger an event when a scene is changed on the video screen.



1. From the Setup menu, select the <**Event (** **)**> tab.
2. Click <**Event setup**>.
3. Select <**Tampering detection**> from <**Event action setup**>.
4. Set whether or not to <**Enable**>.
5. Specify the detection sensitivity of the scene change.
   The higher the sensitivity is, the lesser change can be detected.
6. Specify the activation time and activation condition.
   - For more information about <**Activation time**> and <**Action**>, refer to "**Alarm input**". (page 57)
7. When done, click [**Apply (** **)**].

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- The default change detection function may not work properly in the following cases:
  - A monotonous background or a night/low-contrast scene may deteriorate the detection performance.
  - A severe shaking of the camera or a drastic change to the illumination can be considered a scene change by mistake.
  - Detection of the scene change may take some time (maximum 3 seconds) right after the change was made.
  - Once a scene change is detected, the network camera will resume a normal operating after a certain stability time (approx. 3 seconds) during which no detection will be performed.

Motion detection

1. From the Setup menu, select the <**Event (** **)**> tab.
2. Click <**Event setup** >.
3. Select <**Motion detection**> from <**Event action setup**>.

❖ **Motion Detection**

1. Set whether or not to <**Enable**>.
2. Set the motion detection mode to Mask.
   - Detect : Detect a motion that may occur in the selected area.
   - Mask : Detect a motion that may occur in other areas than the selected.
3. Select the detection sensitivity of a moving object.
   - Set to a lower sensitivity in environments that allow clear distinguishing of objects from background. Set to a higher sensitivity otherwise, such as in a dark place.
4. Use the drag-and-drop method to specify the detection area on the video.
   - Mask mode : Display the set area.
   - Minimum object size : Set the minimum area for a recognizable object. Motion detection will not be activated for an area that is smaller than the minimum size of object.
   - Maximum object size : Set the maximum area for a recognizable object.
   - [Clear (Clear)] : Cancel the set area.
5. Specify the use of overlay.
   - Select <**Display event area**> to mark a box on the detected moving object on the screen.
6. Specify the activation time and activation condition.
   - For more information about <**Activation time**> and <**Action**>, refer to "**Alarm input**". (page 57)
7. When done, click [**Apply (** Apply **)**].

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- If the camera is capturing a short-distant object, the motion detection performance may be degraded.
  The motion detection function may not work properly in the following cases:
  - The object color or brightness is similar to the background.
  - Multiple movements continue occurring at random due to a scene change or other reasons.
  - A fixed object continues moving in the same position.
  - An object hides other objects behind.
  - Two or more objects overlap or one object divides in multiple portions.
  - Too fast object (for a proper detection, one object should be found overlapping between contiguous frames).
  - Reflection / blur / shadow due to a strong light such as direct sunlight, illumination, or headlamp.
  - In severe snow, rain, wind or in dawn / dusk.
- If the MJPEG resolution of <**Video profile**> is set to 1280X720, the upper and lower parts of the image in the mask area will be truncated. Further, the already set mask area may appear to be cut off as well.

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SYSTEM SETUP

Product information

1. From the Setup menu, select the <**System (** **)**> tab.
2. Click <**Product information**>.
3. Check the camera information, or provide details according to your network environment.
   - Model : Model name of the product.
   - Serial number : Product serial number.
   - Device name : Provide a device name that will be displayed on the Live screen.
   - Location : Specify the location where the camera is installed.
   - Description : Provide detailed information about the camera location.
   - Memo : Provide an explanation about the camera for better understanding.
   - Language : Select a preferred language for the Web Viewer OSD.

   ▪ The default language is set to English.
4. When done, click [**Apply (** **Apply** **)**].

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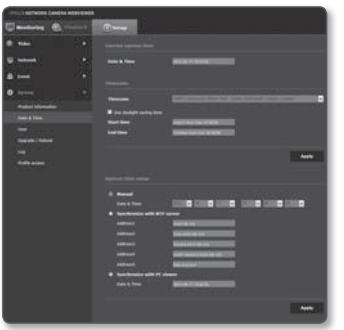
Date & Time



1. From the Setup menu, select the <**System (** **)**> tab.
2. Click <**Date & Time**>.
3. Specify the time and date that will be applied to the camera.
   - Current system time : Displays the current time settings of your system.
   - Timezone : Specify the local time zone based on the GMT.
   - Use daylight saving time : If checked, the time will be set one hour before the local time zone for the specified time period. This option will be displayed only in areas where DST is applied.

- System time setup : Specify the time and date that will be applied to your system.
  - Manual : Specify the time manually.
  - Synchronize with NTP server : Sync with the time of the specified server address.
  - Synchronize with PC viewer : Synchronize the time with the connected PC.

4. When done, click [**Apply (** Apply **)**].

■ If you select the <**Synchronize with PC viewer**>, the standard timezone should be set the same as the current timezone in PC.

User

1. From the Setup menu, select the <**System (** ⚙ **)**> tab.
2. Click <**User**>.
3. Provide the necessary user information.
   - Administrator Password Change : Change the password for the administrator.
     ■ The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product.
     Note that the security and other related issues caused by the unchanged password shall be responsible for the user.

   - Guest setup : If you select <**Enable guest access**>, the guest account can access the Web viewer screen but can only view the live Viewer screen.
     ■ The ID/password for the guest account is guest/guest, which cannot be changed.
   - Authentication setup : If you select <**Enable RTSP connection without authentication**>, you can access RTSP without logging in and view the video.
   - Current users : If you select <**Use**>, you can set or change the user permissions.
     - Profile : If you select "**Default**", you can only see the default profile video; if selecting "**All**", you can see the full profile videos.
4. When done, click [**Apply (** Apply **)**].

Upgrade / Reboot

1. From the Setup menu, select the <**System (** **)**> tab.
2. Click <**Upgrade / Reboot**>.
3. Select a desired item and set it appropriately.
   - Upgrade : Performs upgrading the system.
   - Factory default : Resets the system to the factory default.
     - Except network parameter : Reset the other settings except for Network settings.
     - All : Resets all settings including the camera settings. (however, the log information will not be reset)
       - The IP addressing system will be defaulted to DHCP if you reset the camera. If no DHCP server is found, the previous settings will be restored automatically.
   - Configuration backup & Restore : Backs up the current system settings before performing the restoration process. The system is automatically restarts after backup or restoration.
   - Restart : Restarts the system.

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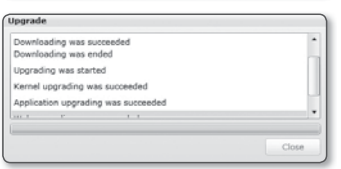
To perform the upgrade

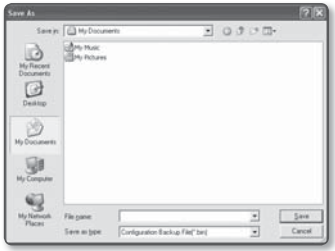
1. Click [**Upgrade**].
2. Click [**Browse**] and specify a file to upgrade.
3. Click [**Send**].
4. The "**Upgrade**" dialog appears where the progression will be shown in the bottom.



- It may take a max of 20 minutes for the upgrade process.
  If you forcibly terminate the upgrade process, upgrade will not be completed properly.
- You can download the latest version from the Samsung web site (www.samsungcctv.com).

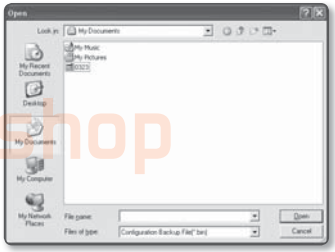
To back up the current settings

1. Click [**Backup**].
   The Save As dialog should appear.
2. Specify the backup path with a proper file name, and click [**Save**].
   The backup file will be saved to the specified path in the format of "**.bin**".



To restore the backup settings

1. To restore the backup settings, click [**Restore**].
2. Select a backup file and click [**Open**].

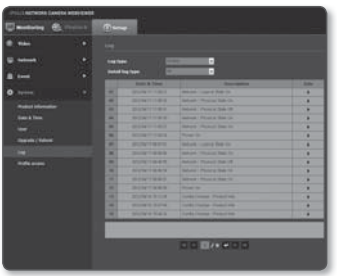


- If you perform the backup or restoration, the web browser will be closed and the camera will reboots.

cctvmart.com

Log

You can check the system log or event log.



1. From the Setup menu, select the <**System (** **)**> tab.
2. Click <**Log**>.
3. Select a log type.
   - System : You can check the system logs where any system changes are recorded including the time information.
   - Event : You can check the event logs including the time information.
4. From the right log list, select an item to search for.
   - If you select <**All**> in the top left dropdown list, all logs for the applicable log type will be displayed.
5. If one page can not display all the logs available, use the bottom buttons to move to the previous, next, or the last item.

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- If you want to view the details of a log, click [**Info (** **)**] in the right column of the log; the log information will be shown in the bottom pane.
- Each page displays 15 logs with the latest one displayed at the top.
- The event/system log list can contain up to 1000 logs; after that, the existing logs will be deleted from the oldest one each time a new log is created.

Profile access

You can check the profile information.

1. From the Setup menu, select the <**System (** **)**> tab.
2. Click <**Profile access**>.

- Profile access : Show the information of the newly added profile.
  - Profile : Show the information of the newly added codec.
  - Bitrate(kbps) : Show both the actual bit rate and the set bit rate.
  - Framerate(fps) : Show both the actual frame rate and the set frame rate.
  - ATC(%) : Show the ATC status.
  - Concurrent users count : Show the number of concurrent users who access the profile.
- Current users : Show the information of all users who access the camera.
  - Profile : Show the name of the profile accessed by the user.
  - IP address : Show the IP address of the current user.
  - Bitrate(kbps) : Show the current bit rate.
  - Network connection status : You can check the network connection status.

SECURITY Shop

SPECIFICATION

Items		Description	
		SNB-5001	SNB-7001
Video	Imaging Device	1/3" 1.3M PS CMOS	1/2.8" 3M PS CMOS
	Total Pixels	1,384(H) x 1,076(V)	2,144(H) X 1,588(V)
	Effective Pixels	1,329(H) x 1,049(V)	2,096(H) X 1,561(V)
	Scanning System	Progressive	
	Min. Illumination	Color/B/W : 0.7 Lux (F1.2, 50IRE)	Color/ B/W : 0.4 Lux (F1.2, 50IRE)
	S / N Ratio	-	
	Video Out	CVBS : 1.0 Vp-p / 75Ω composite, 704x480(N), 704x576(P), for installation	
Lens	Focal Length (Zoom Ratio)	-	
	Max. Aperture Ratio	-	
	Angular Field of View	-	
	Min. Object Distance	-	
	Focus Cotrol	-	
	Zoom Movement Speed	-	
	Lens Type	Manual / DC Auto Iris	
	Mount Type	C/CS	

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Items		Description	
		SNB-5001	SNB-7001
Operational	Camera Title	Off / On (Displayed up to 15 characters)	
	Day & Night	Auto (S/W) / Color / B/W	
	Backlight Compensation	Off / BLC	
	Wide Dynamic Range	-	
	Contrast Enhancement	-	
	Digital Noise Reduction	SSNR (Off / On)	
	Digital Image Stabilization	-	
	Motion Detection	Off / On (4 programmable zones, 20fps)	Off / On (4 programmable zones, 2Mega 20fps, 3Mega 15fps)
	Privacy Masking	Off / On (12 Rectanggular zones)	
	Sens-up (Frame Integration)	Off / Auto (2X ~ 60X) (Sens-up is limited to x30 in maximum if two or more users of different profiles are accessing at the same time.)	
	Gain Control	Off / Low / Middle / High	
	White Balance	ATW / AWC / Manual / Indoor / Outdoor	
	Electronic Shutter Speed	Auto / A.FLK / Manual (1/30 ~ 12,000sec)	
	Digital Zoom	-	
	Flip / Mirror	Off / On	
	Intelligent Video Analytics	Tampering (20fps)	Tampering (3M 15fps, 2M 20fps)
	Alarm I/O	Input 1ea	
	Remote Control Interface	-	
	RS-485 Protocol	-	

alarmsystem

Items		Description	
		SNB-5001	SNB-7001
Network	Ethernet	RJ-45 (10/100BASE-T)	
	Video Compression Format	H.264, MJPEG	
	Resolution	1280x1024, 1280x720P(HD), 1024x768, 800x600, 640x480, 320x240	<3M Mode> 2048x1536, 1920x1080P(Full HD), 1600x1200, 1280x1024, 1280x960, 1280x720P(HD), 1024x768, 800x600, 800x450, 640x480, 640x360, 320x240, 320x180 <2M Mode> 1920x1080P(Full HD), 1280x1024, 1280x960, 1280x720P(HD), 1024x768, 800x600, 800x450, 640x480, 640x360, 320x240, 320x180
	Max. Framerate	H.264 : 30fps MJPEG : 30fps(1280x1024), 30fps (720P HD)	<3M Mode> * H.264 : Max 20fps at all resolutions * MJPEG : 800x600 ~ 320x180 - 20 fps, 1280x1024 ~ 1920x1080 - 15 fps, 2048x1536 - 10 fps <2M Mode> * H.264 : Max 30fps at all resolutions * MJPEG : 800x600 ~ 320x180 - 30 fps, 1280x1024 ~ 1920x1080 : 15 fps
	Smart Codec	-	Yes (Area Based Method)
	Video Quality Adjustment	H.264 : Compression Level, Target Bitrate Level Control MJPEG : Quality Level Control	
	Bitrate Control Method	H.264 : CBR or VBR MJPEG : VBR	

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Items		Description	
		SNB-5001	SNB-7001
Network	Streaming Capability	Multiple Streaming (Up to 10 Profiles)	Multiple Streaming (Up to 5 Profiles)
	Audio I/O	-	
	Audio Compression Format	-	
	Audio Communication	-	
	IP	IPv4, IPv6	
	Protocol	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTSP, NTP, HTTP, HTTPS, SSL, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, ONVIF	
	QoS	On/Off	
	Security	HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access Log 802.1x Authentication	
	Streaming Method	Unicast / Multicast	
	Max. User Access	10 users at Unicast Mode	
	ONVIF Conformance	Yes	
	Webpage Language	English, French, German, Spanish, Italian, Chinese, Korean, Russian, Japanese, Swedish, Denish, Portuguese, Czech, Polish, Turkish, Rumanian, Serbian, Dutch, Croatian, Hungarian, Greek, Norway, Finland	
	Web Viewer	Supported OS : Windows XP SP3, Vista, 7, Mac OS X 10.7 or higher Supported Browser : Internet Explorer 7.0 or Higher, Chrome 15 or higher, Firefox 9 or higher, Safari 5.1 or higher	
	Central Management Software	NET-i viewer	

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Items		Description	
		SNB-5001	SNB-7001
Environmental	Operating Temperature / Humidity	-10°C ~ +55°C (+14°F ~ +131°F) / ~ 90%RH	
	Storage Temperature / Humidity	-30°C ~ +60°C / ~ 90%RH	
	Ingress Protection	-	
Electrical	Input Voltage / Current	12V DC, PoE(IEEE802.3af, Class2)	
	Power Consumption	Max. 3.7W (DC 12V), Max. 4.3W (PoE)	
Mechanical	Color / Material	Black, Silver / Aluminium, Plastic	
	Dimension (W x H x D)	W74.3 x H55.3 x D114.3mm (W2.93" x H2.18" x D4.50")	
	Weight	170g (0.37lb)	

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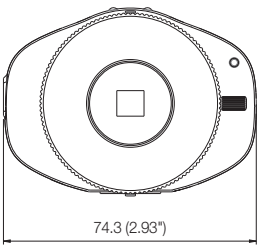
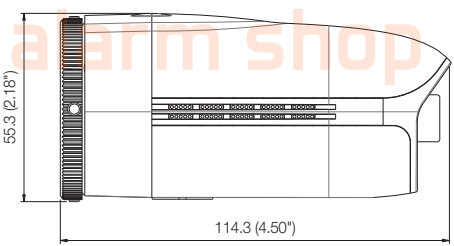
PRODUCT OVERVIEW

Unit : mm (inch)





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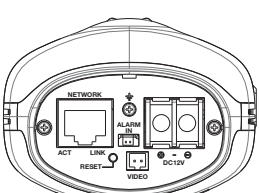

TROUBLESHOOTING

PROBLEM	SOLUTION
I can't access the camera from a web browser.	• Check to make sure that the camera's Network settings are appropriate. • Check to make sure that all network cables have been connected properly. • If connected using DHCP, verify that the camera is able to acquire dynamic IP addresses without any problem. • If the camera is connected to a Broadband Router, verify that port forwarding is properly configured.
Viewer got disconnected during monitoring.	• Connected Viewers become disconnected upon any change to camera or network configurations. • Check all network connections. • If the camera is connected over an PPPoE network, it' s possible for Viewer to disconnect under poor network conditions.
I cannot connect to the system using a tab browser of Internet Explorer 7.0.	• When you try to connect to the system using a tab browser, the same cookie information is shared, resulting in errors when connected. Therefore, instead of using a tab browser, open a new browser window to connect to the system.
The camera connected to the network is not detected in the IP installer program.	• Turn off the firewall settings on your PC and then search the camera again.
Images overlap.	• Check whether two or more cameras are set to a single multicast address instead of different addresses. If a single address is used for multiple cameras, the images may overlap.
No image appears.	• If the transmission method is set to multicast, check whether there is a router that supports multicast in the LAN the camera is connected to.

diagramhelp

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Component Name	License	License URL
lighttpd 1.4.25	BSD 2.0	http://www.opensource.org/licenses/bsd-license.html
librtp 1.20	BSD 1.0	
net-snmp-5.4	BSD	http://www.net-snmp.org/about/license.html

lighttpd is a secure, fast, compliant, and very flexible web-server that has been optimized for high-performance environments. It has a very low memory footprint compared to other webservers and takes care of cpu-load. Its advanced feature-set (FastCGI, CGI, Auth, Output-Compression, URL-Rewriting and many more) make lighttpd the perfect webserver-software for every server that suffers load problems.

Simple Network Management Protocol (SNMP) is an Internet-standard protocol for managing devices on IP networks. It is used mostly in network management systems to monitor the devices attached to the network for conditions that need administrative attention. Net-SNMP is a suite of applications used to implement SNMP v1, SNMP v2c and SNMP v3 using both IPv4 and IPv6.

For more additional information, send email to help.cctv@samsung.com.

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This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

eco
RoHS compliant

Samsung Techwin cares for the environment at all product manufacturing stages, and is taking measures to provide customers with more environmentally friendly products.
The Eco mark represents Samsung Techwin's devotion to creating environmentally friendly products, and indicates that the product satisfies the EU RoHS Directive.

Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

Correct disposal of batteries in this product

(Applicable in the European Union and other European countries with separate battery return systems.)

This marking on the battery, manual or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment.

To protect natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through your local, free battery return system.

alarm shop

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